REMARKS

The above-identified patent application has been amended and Applicants respectfully request the Examiner to reconsider and again examine the claims as amended.

Claims 1 and 2 – 19 are pending in the application. Claims 1 and 2 - 19 were rejected. Claim 1 is amended herein. Claim 2 is cancelled.

The Examiner rejected Claim 1 under 35 U.S.C. 102(e) as being anticipated by Katsuki, US Patent No. 6,798,447. The Examiner rejected Claims 2, 5, 7-10, 12, 13 and 19 under 35 U.S.C. § 103(a) as being unpatentable over Katsuki in view of Takemoto, US Patent No. 5,065,246. The Examiner rejected Claims 3, 4, 6, 15, 17 and 18 under 35 U.S.C. § 103(a) as being unpatentable over Katsuki in view of Owada, US 2002/0006281. Claim 11 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Katsuki in view of Takemoto, US Patent No. 5,065,246 and further in view Owada, US 2002/0006281. Claim 14 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Katsuki in view of Takemoto and further in view Morimoto, US Patent 6,487,366. Claim 16 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamasaki, US Patent 5,138,360 in view of Novak, US 2002/0141658 and further in view Katsuki.

It should be appreciated that Applicants invention includes a compression engine to provide a compressed data file, comparing the size of each compressed data file and moving the lens to a position that creates the largest data file. Where a compression engine is often already included in a digital imaging system, this technique for focusing a digital imaging system can be implemented with minimal costs and not requiring the additional elements used in known focusing techniques.

Katsuki teaches a technique for compressing data to a predetermined value to include defocusing the image to help reduce the size of the data value. It is not describing nor suggesting a technique for focusing, but defocusing.

Takemoto teaches a technique for using the relationship between the coding coefficient of a discrete cosine transform and the focus to drive a step motor to control the step motor to control the focus of the image input.

Owada teaches a technique for looking at contrast by providing, as shown in FIG. 2C, an output signal for the first color but no sensitivity is shown to the second color. However, the output signal exhibits a distinct contrast that the two images of different pupil positions can be correlated for focus detection. Similarly, a second output image shows sensitivity to the second color rather than to the first color, resulting in the output shown in the drawing. Also in this case, the output signal exhibits a distinct contrast that can be used for focus detection.

It is respectfully submitted that Claim 1, as amended, is patentable over Katsuki in view of Takemoto, since Katsuki in view of Takemoto neither describe nor suggest "... providing a focus accuracy parameter, the focus accuracy parameter derived from the file size of the compressed file; and determining from the focus accuracy parameter, the distance required to move a lens to bring the lens into focus".

Dependent Claim 4 adds the limitation "... extracting a second focus accuracy parameter, the second focus accuracy parameter indicative of the focus accuracy of the second digital image; and comparing the focus accuracy parameter with the second focus accuracy parameter to determine which digital image is best focused" to claim a further patentably distinct feature of the invention.

Independent Claim 5 is neither described nor suggested by the references since the references taken separately or in combination neither describe nor suggest the combination of "... a compression engine, responsive to the image detector, to provide a compressed data file; and a digital processor to compare the size of each compressed data file and to provide a control signal to the motor to move the lens to a position that creates the largest compressed data file."

Independent Claim 6 is neither described nor suggested by the references since the references taken separately or in combination neither describe nor suggest the combination of "capturing a first image and digitally compressing and storing the data; moving the lens to another position; capturing a second image and digitally compressing and storing the data; and comparing the size of the data file of the first image with the size of the data file of the second image and moving the lens in the direction of the position providing the larger file size."

Independent Claim 7 is neither described nor suggested by the references since the references taken separately or in combination neither describe nor suggest the combination of "... a detector that receives an optical image through said lens and outputting signals indicative of said received optical image at an instant of time; a processor that processes said signals to provide a digital signal indicative of the optical image and to compress said digital signal to provide a compressed digital signal to provide a size signal indicative of the size of the compressed digital signal; and a controller that controls said driver to locate said lens at a position where said size signal becomes greatest."

As Claims 8 through 14 depend from allowable Claim 7 and cite additional structure, they too are allowable for analogous reasons.

Independent Claim 15 is neither described nor suggested by the references since the references taken separately or in combination neither describe nor suggest the method of "... moving the lens to one of a plurality of positions and capturing through the lens and digitally

compressing a digital image of the test target to provide a compressed image file having a file size; moving the lens to another one of a plurality of positions and capturing through the lens and digitally compressing a digital image of the test target to provide a compressed image file having a file size until the file size is maximized; and fixing the lens within the unit under test at the position that provides the maximum file size."

Independent Claim 16 is neither described nor suggested by the references since the references taken separately or in combination neither describe nor suggest the method of "... replicating a test target over regions of an object plane as it passes through the lens; capturing an image of the test target with the sensor and segmenting the image into regions corresponding to the regions of the object plane and compressing a digital image corresponding to each region and recording the relative size of the compressed image for each region; and adjusting the location of the sensor relative to the lens to set axial and tilt adjustments such that the relative size of the compressed image for each region is maximized."

Independent Claim 17 is neither described nor suggested by the references since the references taken separately or in combination neither describe nor suggest the method of "... capturing a portion of a first image passing through a lens and digitally compressing and recording the size of the resulting data file; moving the lens to another position; capturing a portion of a second image passing through the lens and digitally compressing and recording the size of the resulting data file; and comparing the size of the data file of the first image with the size of the data file of the second image to determine which lens position provides a larger file size.

Independent Claim 19 is neither described nor suggested by the references since the references taken separately or in combination neither describe nor suggest the combination of "a lens having a plurality of predetermined positions with corresponding ranges; a driver that drives said lens along an optical axis of said lens; a detector that receives an optical image through said lens and outputting signals indicative of said received optical image at an instant of time; a processor that processes said signals to provide a digital signal indicative of the optical image and

to compress said digital signal to provide a compressed digital signal to provide a size signal indicative of the size of the compressed digital signal; and a controller that controls said driver to locate said lens at a position where said size signal becomes greatest, said position corresponding to a specific range."

The remaining Claims depend from an independent Claim and cite additional elements or steps, hence they too are allowable for analogous reasons.

Applicants have submitted herewith a Petition for an Extension of Time for three months to cover the costs of the petition. Authorization to charge Daly, Crowley, Mofford & Durkee, LLP Deposit Account No. 50-0845 for this cost or any excess fees due or credit any overpayment is hereby given.

Accordingly, re-examination and reconsideration are requested in view of the above amendment and remarks.

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Respectfully submitted,

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